

# PATENT SPECIFICATION

809,573



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International Classification:— B65c.

## Device for forming a Folded Tag with a Thread arranged in undulating fashion between the folds thereof.

### COMPLETE SPECIFICATION

We, INDUSTRIE - WERKE KARLSRUHE AKTIENGESELLSCHAFT, a Company organised under the laws of the Federal Republic of Germany, of Gartenstrasse 71, Karlsruhe, Germany, do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:

- 10 This invention relates to a device for forming a folded tag with a thread arranged in undulating fashion between the folds thereof, and it has for its object to facilitate the production of a tag from which the thread can, in use, readily be pulled out, the invention being primarily directed to tags for tea bags which are intended to be suspended in a teapot, cup or the like while boiling water is poured on to them.
- 20 According to this invention there is provided a device for forming a tag folded at least once with a length of thread for attaching it to a tea bag, the thread being arranged for part of its length in undulating fashion between the folds of the tag and attached thereto by means which also hold the folds of the tag together, said device comprising a member adapted to carry an unfolded tag and having thereon at least three spaced pins arranged in line and adapted to be engaged by and so position an initially straight length of thread, a pair of hook elements adapted to be moved transversely of said line of pins for engaging the thread between the pins and drawing part of it into undulating form over one half of said tag, means for folding the two halves of the tag together with the undulating thread between them, and means for clipping the two halves or folds of the tag together and securing the adjacent end of the thread therein.

Preferred features of this invention will be apparent from the following description of an embodiment thereof and the appended claims.

(Price 3s. 6d.)

In the accompanying drawing:

Figure 1 shows a flat rectangular tea bag with a folded tag attached thereto by a thread, the greater part of which is arranged in undulating fashion between the folds of the tag, and

Figures 2, 3 and 4 show the construction and operation of a device in accordance with this invention for effecting the arrangement of the thread in undulating fashion between the folds of the tag.

The tea bag 1, shown in Figure 1, is closed along three sides, for example by welding, being adapted to receive a portion of tea before the fourth side is closed. In one closed side edge 2 of the bag there is fixed a clip 3 which serves to secure one end of a thread 4, which at its other end is secured in a folded tag 6 by means of a clip 8, the tag 6 being folded once about a centre line 7 and the clip 8 also serving to hold the two folds together. The thread 4 is arranged for the greater part of its length in undulations 5 between the two folds of the tag 6.

When it is desired to use a filled tea bag, as above described, it is picked up by means of the tag 6, the weight of the bag being sufficient to pull the thread out straight. The bag can then be suspended in a teapot, cup or the like and can readily be retrieved after use.

In the device shown in Figures 2, 3 and 4 there is provided a slide 11 which is mounted on an endless chain or the like element (not shown) by means of which it can be moved into and out of an operative position. In practice a number of such slides would be arranged in series in a machine and the drive to the endless chain or the like element would be intermittent to bring the slides into the operative position in turn. Mounted on each slide 11 are three spaced pins 12 arranged in line with the direction of movement of the slide. Thread is drawn from a roll or like supply source

Price 1s 5d

(not shown) passed along in front of the line of pins 12 in contact therewith, and a length 4 thereof is cut off by any suitable known means (also not shown). The length of thread 4 is pressed lightly but securely against the pins 12 by means such as an elastic element 23 (see, for example, Figure 3).

Mounted at the operative position is a member 15 adapted to be reciprocated, for example by a cam mechanism, at right angles to the path of the slide 11, said member having two forwardly inclined catch arms 14 provided at their forward ends with hooks 13, the arrangement being such that when a slide 11 is stationary at the operative position the hooks 13 will pass, on the member 15 being reciprocated, between the pins 12 on the slide, engaging the thread 4 on their rearward movement and pulling it into undulating form, as clearly as shown in Figure 3.

Before the above takes place, however, a tag 6 is placed on the slide 11, the tag being folded about the line 7 into L-shape so that while one half 6' of it rests on the slide the other half 6'' stands upright, this half abutting a plate element 16. With the tag in this position the thread is drawn into undulating form over the half 6' thereof. By means of the plate element 16 which is adapted to be reciprocated by any suitable means, for example a cam mechanism, the half 6'' is then folded over on to the half 6', thus trapping the undulating thread. The end of the undulating portion 5' of the thread is then secured by a clip 8 inserted by any suitable clip apparatus (not shown), this clip serving, as explained before, also to secure the two halves or folds of the tag.

Subsequently, a filled and sealed tea bag (see broken lines in Figure 4) is disposed in position in the depression 17 provided by the slide 11, and bounded by the edges 18, 19, 20, 21 and the other end of the thread 4 is secured by another clip 3 at the point 22.

In actual practice the insertion of the thread into a tag, and the attachment of the thread and tag to a tea bag would take place at succeeding operative stations or positions in a machine.

Instead of a slide or slides carried by an endless chain, a turret with a vertical axis or a table rotating about a horizontal axis

could be used for successively bringing tags into an operative position.

#### WHAT WE CLAIM IS:

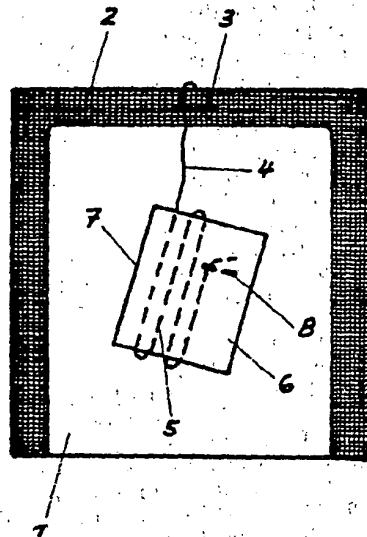
1. A device for forming a tag folded at least once with a length of thread for attaching it to a tea bag, the thread being arranged for part of its length in undulating fashion between the folds of the tag and attached thereto by means which also hold the folds of the tag together, said device comprising a member adapted to carry an unfolded tag and having thereon at least three spaced pins arranged in line and adapted to be engaged by and so position an initially straight length of thread, a pair of hook elements adapted to be moved transversely of said line of pins for engaging the thread between the pins and drawing part of it into undulating form over one half of said tag, means for folding the two halves of the tag together with the undulating thread between them and, means for clipping the two halves or folds of the tag together and securing the adjacent end of the thread therein.

2. A device as claimed in Claim 1 wherein said member comprises a slide movable into and out of an operative position, said pins being arranged in line with the direction of movement of the slide.

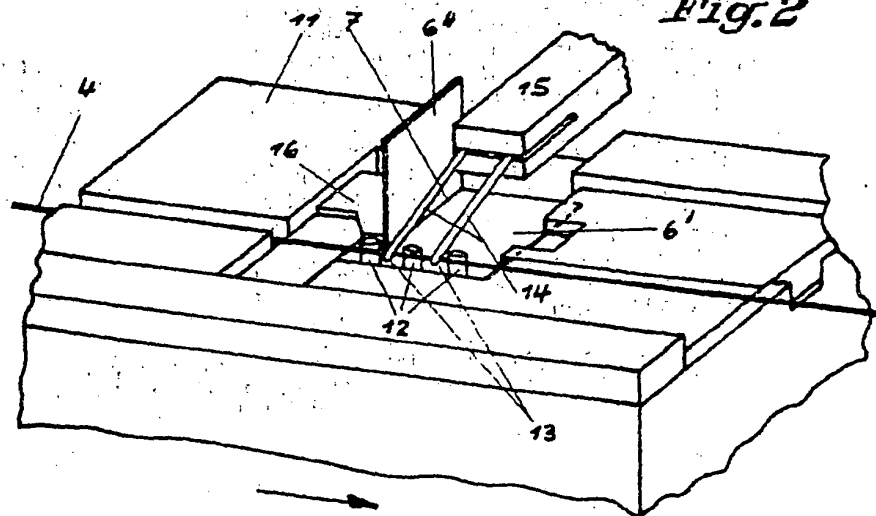
3. A device as claimed in Claim 2 wherein the slide is carried by an endless chain by means of which it can be moved into and out of the operative position.

4. A device for forming a folded tag with a thread arranged in undulating fashion between the folds thereof substantially as herein described and as shown in the accompanying drawings.

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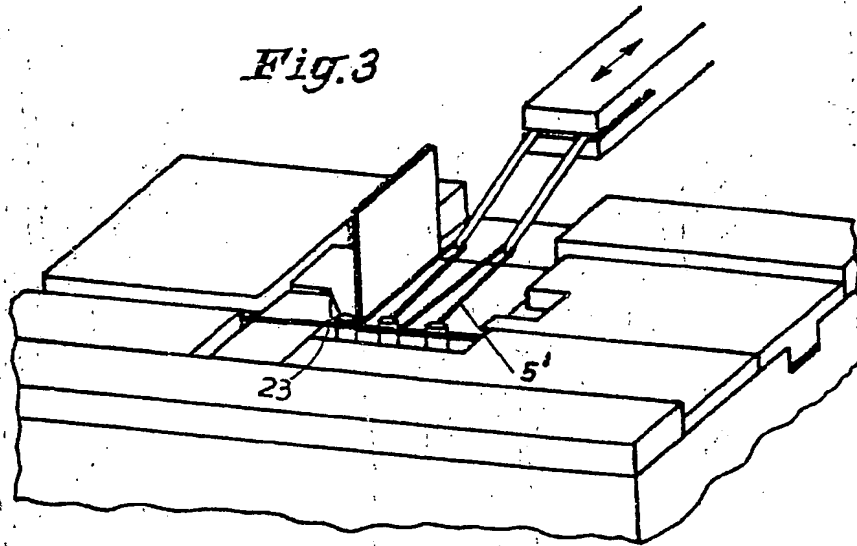
*Fig. 1*



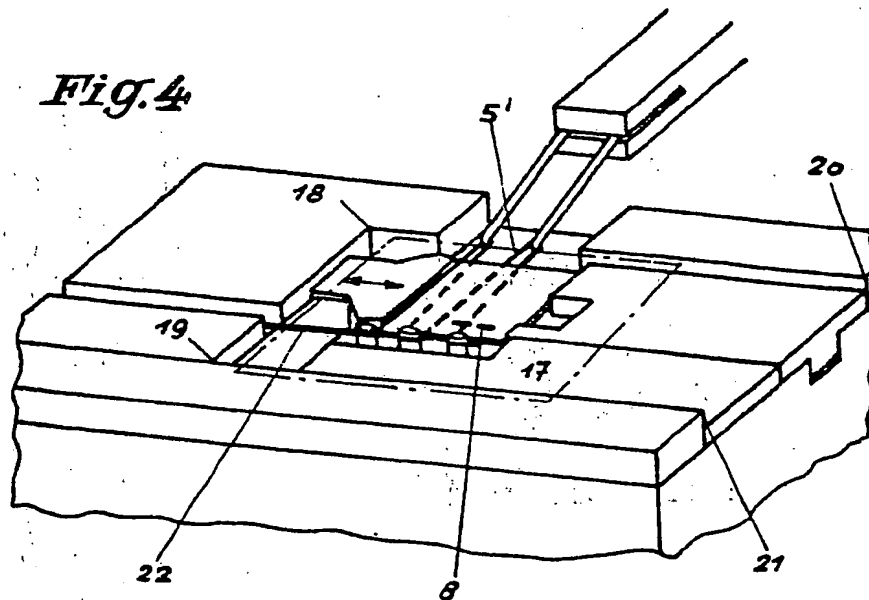
*Fig. 2*

809,573 COMPLETE SPECIFICATION  
 2 SHEETS  
 This drawing is a reproduction of  
 the Original on a reduced scale.  
 SHEETS 1 & 2

*Fig.3*



*Fig.4*



809,573 COMPLETE SPECIFICATION  
 2 SHEETS  
 This drawing is a reproduction of  
 the Original on a reduced scale.  
 SHEETS 1 & 2

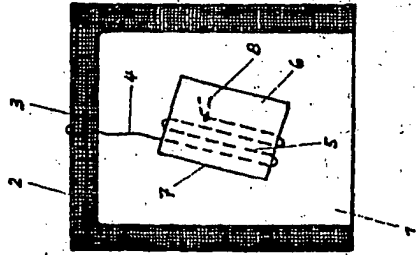


Fig. 1

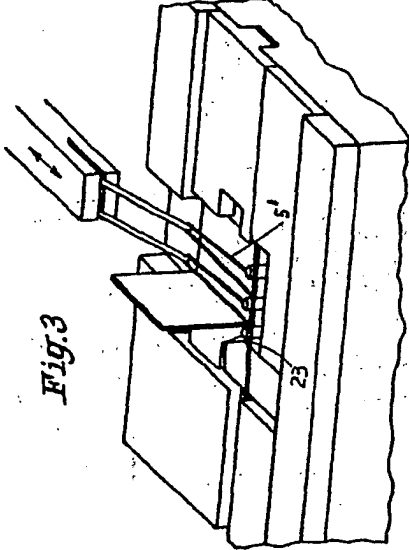


Fig. 3

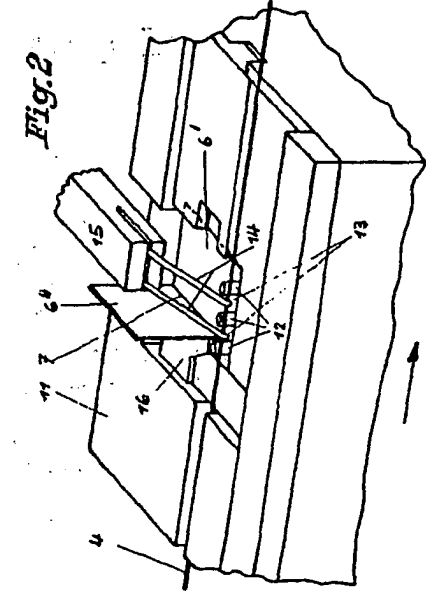


Fig. 2

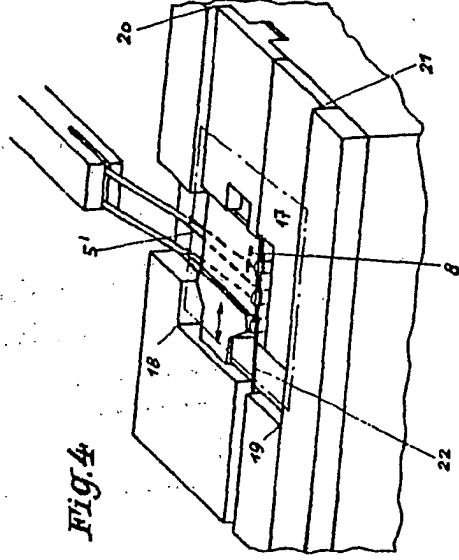


Fig. 4

1. The first part of the document discusses the importance of maintaining accurate records of all transactions and activities. It emphasizes that proper record-keeping is essential for ensuring transparency and accountability in the organization's operations.

2. The second part of the document outlines the various methods and tools used to collect and analyze data. It describes how these methods are applied to different types of data, such as financial records, operational data, and customer feedback.

3. The third part of the document focuses on the role of technology in data management. It discusses how modern software solutions can help organizations store, process, and analyze large volumes of data more efficiently and accurately.

4. The fourth part of the document addresses the challenges associated with data security and privacy. It provides guidance on how to implement robust security measures to protect sensitive information from unauthorized access and breaches.

5. The fifth part of the document discusses the importance of data quality and the steps taken to ensure that the data used for analysis is reliable and accurate. It highlights the need for regular data audits and validation processes.

6. The sixth part of the document explores the various applications of data analysis in different business contexts. It provides examples of how data insights can be used to optimize marketing campaigns, improve operational efficiency, and enhance customer satisfaction.

7. The seventh part of the document discusses the ethical considerations surrounding data collection and analysis. It emphasizes the need for organizations to be transparent about their data practices and to ensure that they comply with relevant data protection regulations.

8. The eighth part of the document provides a summary of the key findings and recommendations from the study. It highlights the most significant insights gained from the data analysis and offers practical suggestions for how these insights can be applied to improve organizational performance.

9. The final part of the document includes a list of references and a glossary of key terms. The references list the sources of information used in the study, and the glossary provides definitions for the technical terms used throughout the document.